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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,348	10/28/2003	James H. Powers	2003-0517.02	5613
21972	7590	09/08/2005	EXAMINER	
LEXMARK INTERNATIONAL, INC. INTELLECTUAL PROPERTY LAW DEPARTMENT 740 WEST NEW CIRCLE ROAD BLDG. 082-1 LEXINGTON, KY 40550-0999			NGUYEN, THINH H	
			ART UNIT	PAPER NUMBER
			2861	

DATE MAILED: 09/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/695,348

Applicant(s)

POWERS ET AL.

Examiner

Thinh H. Nguyen

Art Unit

2861

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Onishi (U.S.6,698,875) in view of Gompertz et al.(U.S.5,742,306)

Re claims 1, 20, 26, Onishi (figs. 1, 5; Table 1, third embodiment (m)) discloses elements of the instant claimed ink jet printer and method of printing, including

a carrier (31)for mounting a first printhead and a second printhead;

a first ink reservoir coupled in fluid communication with said first printhead, said first ink reservoir containing a chromatic dye-based ink (fig.4, 74, 75);

a second ink reservoir coupled in fluid communication with said second printhead, said second ink reservoir containing a chromatic pigment-based ink. (fig.4, 76, 77);

claims 2, 17, 2, wherein said chromatic dye-based ink and said chromatic pigment-based ink have substantially the same hue, but different chroma. (col.5, line 52 – col.6, line 4)

claim 3, 22, wherein said hue is one of cyan and magenta. (col.5, line 52 – col.6, line 4)

claim 16, a controller (40) electrically coupled to each of said first printhead and said second printhead, said controller being configured to form a color image on a print medium using both said chromatic dye-based ink and said chromatic pigment-based ink.

Onishi discloses every element of the instant claimed subject matter as noted above with the exception of said chromatic pigment-based ink has a lower optical density than said chromatic dye-based ink; said chromatic pigment-based ink has a lower colorant concentration than said chromatic dye-based ink; wherein said chromatic pigment-based ink has a lower chroma than said chromatic dye-based ink; said chromatic pigment-based ink has a lower chroma than said chromatic dye-based ink by at least 10 percent of full saturation; said chromatic pigment-based ink has a lower optical density than said chromatic dye-based ink; said second ink reservoir including a plurality of ink chambers containing a plurality of chromatic pigment-based inks, each having a respective hue, and said second printhead including a plurality of nozzle arrays, wherein a first nozzle array of said plurality of nozzle arrays is coupled in fluid communication with a first ink chamber of said plurality of ink chambers that contains a first chromatic ink having a first hue, and a second nozzle array of said plurality of nozzle arrays is coupled in fluid communication with a second ink chamber of said plurality of ink chambers that contains an achromatic ink; said second ink reservoir including a third nozzle array coupled in fluid communication with a third ink chamber containing a second chromatic ink having a second hue different from said first hue, said second nozzle array for jetting said achromatic ink being positioned between said

first nozzle array for jetting said first chromatic ink having said first hue and said third nozzle array for jetting said second chromatic ink having said second hue; wherein said first chromatic ink is one of cyan and magenta and the second chromatic ink is the other of cyan and magenta.

wherein said achromatic ink is black; said first printhead and said first ink reservoir are configured as a first unitary printhead cartridge; said second printhead and said second ink reservoir are configured as a second unitary printhead cartridge.

Gompertz (col.8, lines 7- 25) suggests that both partial and full concentration black and color inks can have a variety of different percentage of concentration (i.e. 10%, 40%), and each color ink can have both dye and pigment characteristics with respect to its different concentration (col.5, lines 7-14; col.5, line 56 – col.6, line 8). As suggested in this aspect, it would be clear that a reduced amount of pigment concentration of the pigment ink would yield a pigment ink with less optical density compared to that of the dye ink of the same hue.

Gompertz (Table 1, image 1) also suggests the use of black ink as dye or pigment (col.5, lines 66-67); said first printhead and said first ink reservoir are configured as a first unitary printhead cartridge (as shown by second cartridge); said second printhead and said second ink reservoir are configured as a second unitary printhead cartridge (as shown by third cartridge)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the concentration of dye, pigment in one color ink of a

same hue but different concentrations so that to achieve a desired print color with different tonality.

Re claims 1, 20, 26, the limitation of the separate printhead is being used for different type of ink is made obvious by the unitary structure printhead of Gompertz. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the printhead in Onishi into a separate printhead for different type of ink. The reason for this modification is to provide convenience and cost effective as when one of the cartridges need to be replaced.

The communication between the specified ink container and the printhead is apparent as disclosed by the printhead structure of Gompertz to provide ink flow from the cartridge to the printhead.

As for chromatic dye-based ink drops and chromatic pigment-based ink drops may be layered, or be overlapping, any currently available printer can be used to function in this manner so that variety of secondary color or tone can be achieved.

Patent Application Information Retrieval (PAIR)

3. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you

have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Response to Amendment

4. Applicant's amendment filed June 16, 2005 have been fully considered. However, arguments with respect to claims 1-26 is not deemed persuasive. Although Onishi does not show the use of separate printhead, this aspect is usually not a mere basis for determining of the patentability.

Contact Information

5. Any inquiry concerning this communication should be directed to examiner Thinh Nguyen at telephone number (571) 272-2257. The examiner can generally be reached Mon-Wed, and Thurs from 9:00A – 5:00P. The official fax phone number for the organization is (703) 872-9306. The examiner supervisor, Dave Talbott, can also be reached at (571) 272-1934.

Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist whose telephone number is (703) 308-1782.



Thinh Nguyen
September 1, 2005

**Thinh Nguyen
Primary Examiner
Technology Center 2800**